lasting for operative purposes. He recommends its employment in the same solution as given above, and for the same reasons prefers it to cocaine.

His researches and those of others have shown that while eucaine-B, when employed in 5 or 10 per cent. solutions, cannot fail occasionally to produce symptoms of poisoning, it is an ideal and perfectly harmless drug when properly employed for infiltration anæsthesia. When employed in the solution described above and sterilized it has never interfered with the normal course of healing in the wounds in which it was employed.

He notes the fact that this local anæsthetic, like cocaine, cannot be employed where heat, as the actual cautery, is to be employed, as the heat destroys the anæsthetic properties of the drug. The osmotically indifferent warmed solution of eucaine-B is very serviceable in opening acute or chronic abscesses, and does not give rise to the pain so often noted with Schleich's solutions. He found the 1 per cent. eucaine-B solution far preferable to local infiltration anæsthesia where it is desired to effect the conductivity of the nerve-trunk and produce regional anæsthesia, as in the fingers and toes. The action in these cases he considers all that could be desired. Six per cent. of salt should be added to all solutions.

Undoubtedly there are cases in which the stronger solutions are preferable to infiltration of the tissues by the more diluted ones, but in general weak solutions should be employed where equally good results can be attained.

THERAPEUTICS.

UNDER THE CHARGE OF

REYNOLD W. WILCOX, M.D., LL.D.,

PROFESSOR OF MEDICINE AND THERAPEUTICS AT THE NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL; VISITING PHYSICIAN TO ST. MARK'S HOSPITAL.

The Use and Abuse of Atropine in Ocular Therapeutics.—DR. A. D. MCCONACHIE regards its greatest indication to be in iritis, whether rheumatic, traumatic, syphilitic, or idiopathic. In adults one drop of a 1 per cent. solution usually suffices to dilate the pupil fully if instilled every two or three hours. In children of one to five years, one-fourth of 1 per cent. solution should be used. Intolerance of the drug is shown by: (1) Toxic symptoms, as dry throat, nausea; (2) the production of catarrh—this usually follows long-continued use; (3) redness and swelling of the lids. It is indicated in all traumatisms of the eye when iritic or cyclitic involvement is suspected, in corneal inflammations, ulcer of the cornea, and to dilate the pupil for ophthalmoscopic examination. Among the abuses cited are its uselessness or even positively injurious effects in simple uncomplicated conjunctivitis, not only because it possibly may increase the conjunctival inflammation, but because of the unnecessary inconvenience of disturbed vision. It should never be used simply to dilate the pupil temporarily in patients beyond forty-five years of age, the glaucomatous tendency being more marked at this time, and its instillation can readily so occlude Fontana's spaces as to precipitate an attack of acute glaucoma. Under no circumstances should it be used in glaucoma.—*Maryland Medical Journal*, 1899, No. 13, p. 195.

Cure of Diabetic Coma by Large Injections of Artificial Serum.—DRS. ROGET and BALWAY mention several solutions in use for intravenous or subcutaneous injection varying slightly in composition. They prefer: Sodium chloride, 7; distilled water, 1000, and think that the composition of the liquid is of less importance than generally supposed. The object to be attained is the elimination of the poisons, and this requires healthy kidneys.

The remaining organs of elimination, the kidneys being diseased, will not suffice. The injection of salt solution with or without the addition of alkaline salts, probably acts in several ways, and thus is explained improvement in diabetic coma, with complicating renal disease. It furnishes fluid to the dehydrated tissues. Owing to the great polyuria, constant exoserosis of fluid results in a dessication of the tissues; the blood becomes thick. Saline injections prevent these changes, and rendering the blood less viscous will remove the poisonous elements. Glandular activity is increased by the additional supply of fluid. The salivary and sudoriferous glands increase markedly their excretion. The intestinal mucous membrane permits transudation of so much fluid that, clinically, a diarrhœa results. Thus, much of the poisonous material can be eliminated. The harmful action of the remaining toxic matter is retarded by the saline injection. The nervous system is also affected. Constantly bathed in a poisoned fluid the nerve centres are as though anæsthetized. To this is due the clinical picture of diabetic coma. Following the injections the patient recovers consciousness. Experiments are quoted to show that sodium chloride actively affects muscular respiration. Following intravenous saline injection the absorption of oxygen and elimination of carbon dioxide is more active in the muscles. Perhaps the saline solution also exerts a beneficial influence, causing hyperleucocytosis, and affecting the blood-making organs; it may be serviceable in other unknown ways. Nevertheless, the poisoning can only be retarded, for the toxic element increases with great rapidity, and, there being an insufficient renal elimination, soon poisons the patient. Study of a series of cases shows that in two patients who were permanently cured of coma clinically, the kidneys were healthy, and in one of these dying four months later the post-mortem microscopical examination showed the renal tissues to be sound. In six patients who were temporarily benefited, recovering consciousness for a time, all showed grave kidney lesions at autopsy. Following the saline injection it has been proved that the acidity of the urine is increased at least one-third, and thus the toxic matter is eliminated. The cure of diabetic coma can be hoped for only in patients with healthy kidneys. Where renal disease is present, temporary amelioration is very likely to follow the saline injections. One or two quarts are to be introduced daily. Too little fluid does not sufficiently dilute the circulating poisons; too much causes effusion into the serous cavities and dilatation of the heart. Early operation is very essential to success. The longer the coma has existed, the more profound is the poisoning. Subcutaneous injection will suffice when the coma threatens to appear. If coma be present intravenous injection is indicated.—*Lyon Médicale*, 1899, Tome xc. p. 158.